

SERVICING MANUAL

FOR MODEL **444 & 445**

THE NEW HOME SEWING MACHINE COMPANY

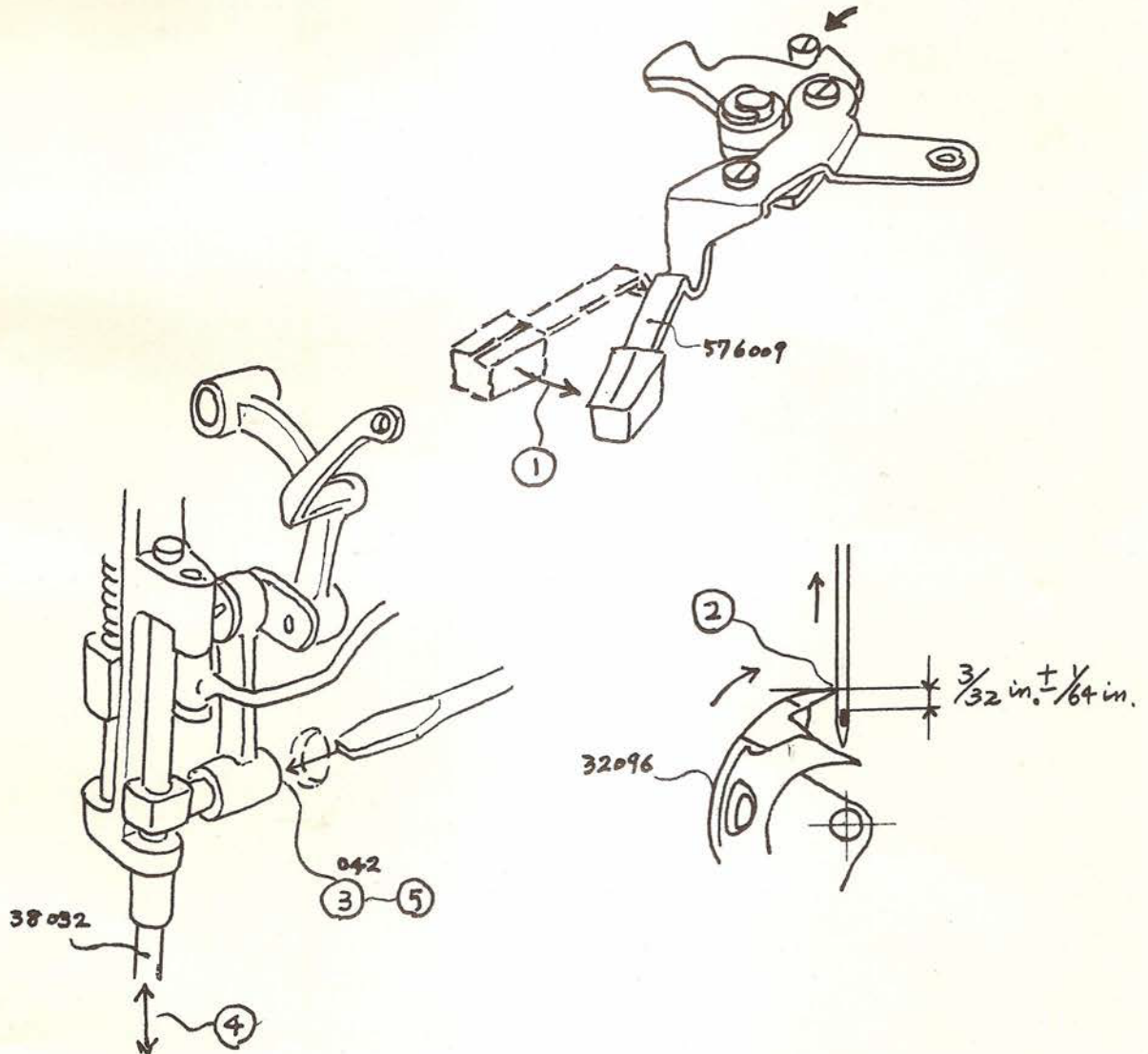
CONTENTS

ADJUSTING HEIGHT OF NEEDLE BAR	1
CORRECTING UNEVEN STRAIGHT STITCH	2
CORRECTING UNEVEN ZIGZAG STITCH	3
TIMING NEEDLE BAR FOR ZIGZAG SEWING	4
ADJUSTMENT FOR CORRECTING CLEARANCE BETWEEN NEEDLE AND SHUTTLE HOOK	5
HOW TO REPLACE BOBBIN WINDER RUBBER RING	6
ADJUSTING THE PHASE OF AUTOMATIC CAM HOLDER ASSEMBLY	7
ADJUSTING TENSION OF THREAD TENSION REGULATOR	8
HOW TO REPLACE AND ADJUST CHECK SPRING	9
ADJUSTING DIFFERENCE IN FORWARD AND REVERSE SEWING PITCHES	10
HOW TO TAKE OFF STITCH LENGTH REGULATOR DIAL UNIT	11
HOW TO ASSEMBLE STITCH LENGTH REGULATOR DIAL UNIT	12. A.B.
HOW TO ATTACH STITCH LENGTH REGULATOR DIAL UNIT	13

ADJUSTING HEIGHT OF NEEDLE BAR

Skipped stitches are often caused by incorrect height of needle bar. Adjust the height as follows:

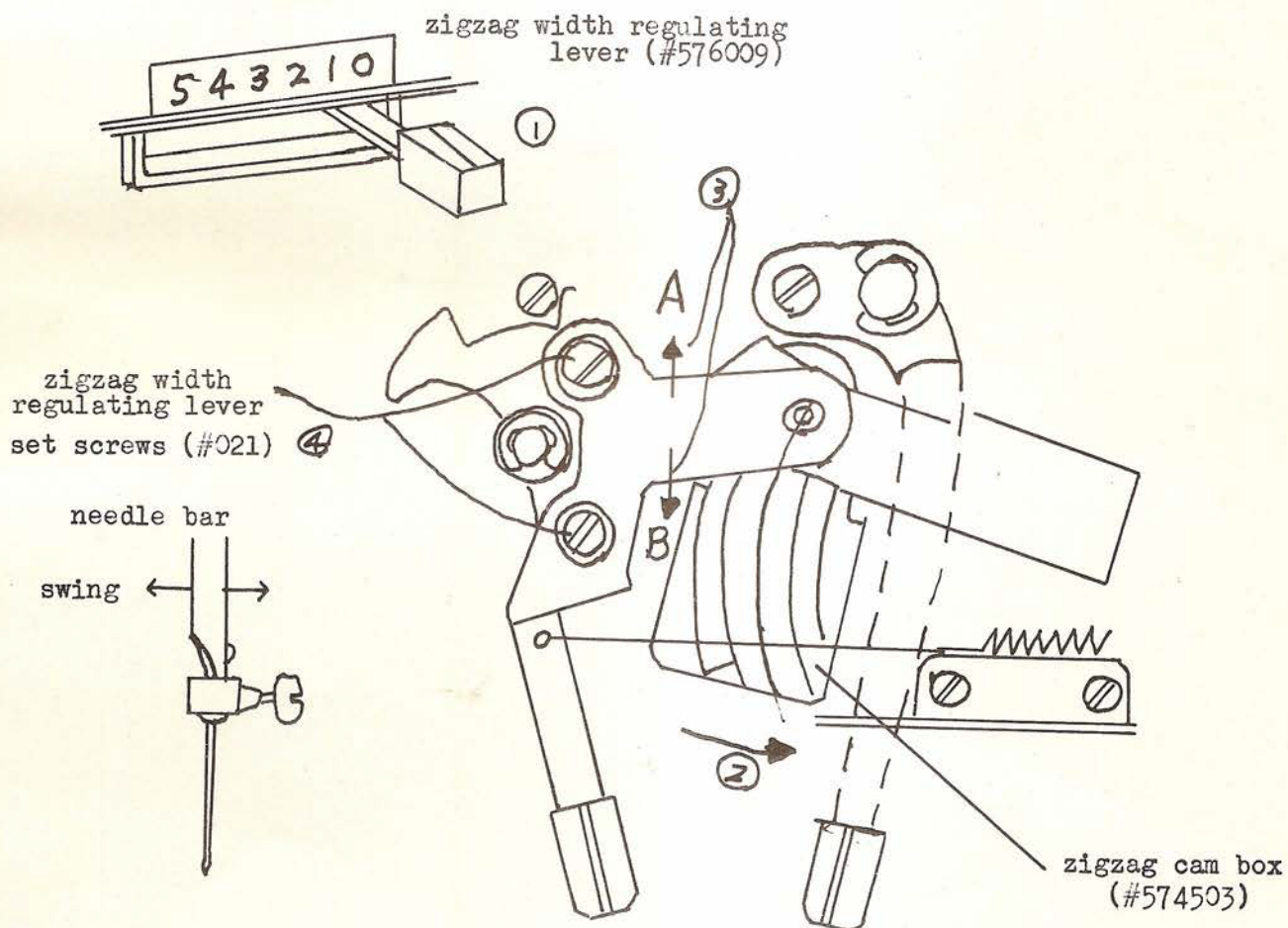
1. Set zigzag width regulator lever (#576009) at 0.
2. Turn hand wheel towards you until tip of shuttle hook (#32096) touches left side of needle.
3. Loosen needle bar connecting stud screw (#042).
4. Distance between upper edge of needle hole and tip of shuttle hook should be $\frac{3}{32}$ in. \pm $\frac{1}{64}$ in.. To adjust this, move needle bar (#38032) up and down.
5. Tighten needle bar connecting stud screw firmly.



CORRECTING UNEVEN STRAIGHT STITCH

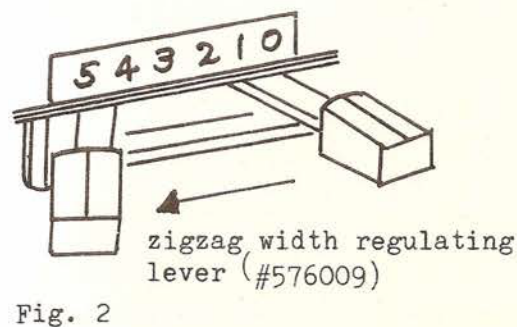
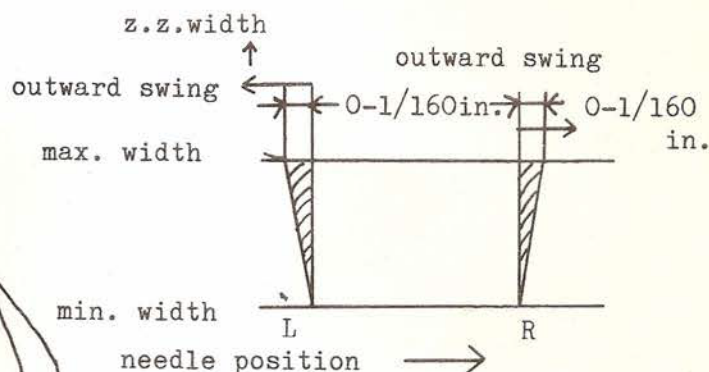
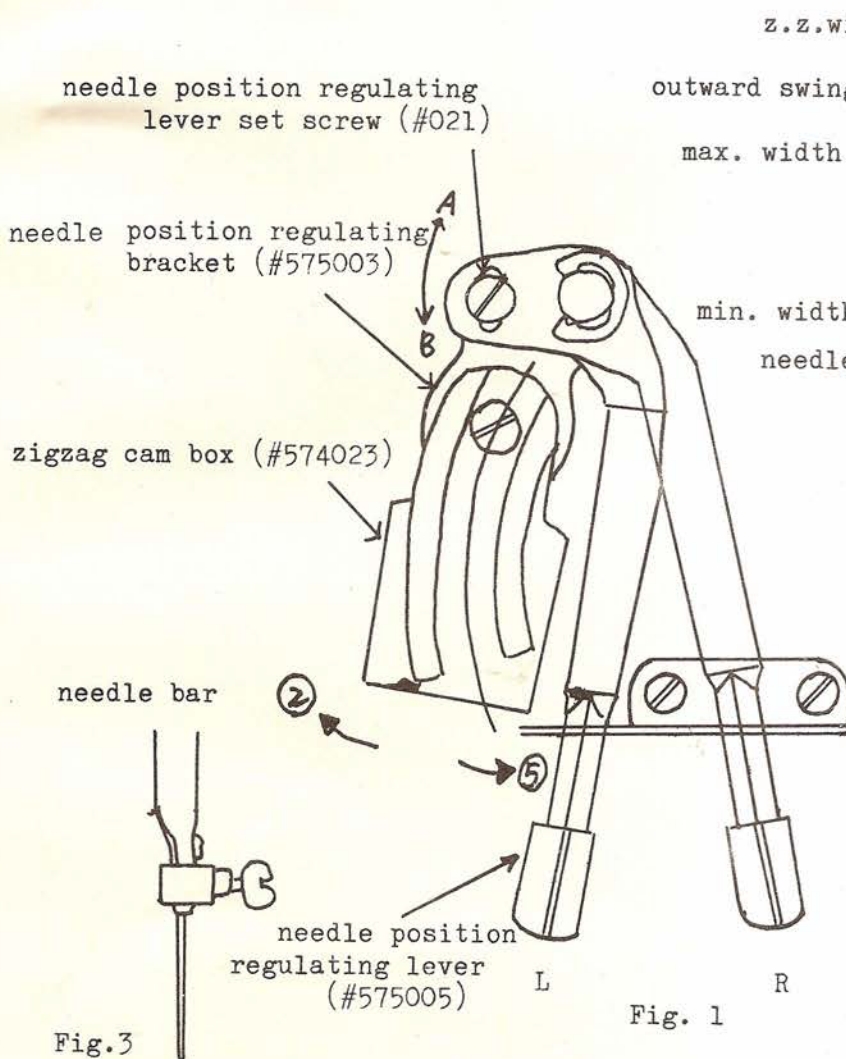
When zigzag deformation is observed in straight sewing, make adjustment as follows:

1. Set zigzag width regulator lever (#576009) at 0.
 2. Turn hand wheel and see if needle bar swings when zigzag cam box (#574503) moves to the right.
 3. * If needle bar swings to the same direction with zigzag cam box, loosen slightly zigzag width regulator set screws (#021) and move zigzag width regulator lever opposite you. (A direction)
* If needle bar swings to the opposite direction, move zigzag width regulator lever towards you. (B direction)
- Repeat adjusting in this way until minimum needle bar swing (below 1/640 in.) is obtained.
4. Tighten set screws (#021) firmly. To test the result, place a piece of paper under presser foot and turn hand wheel. If needle goes up and down in the same hole, the adjustment is correct.



CORRECTING UNEVEN ZIGZAG STITCH

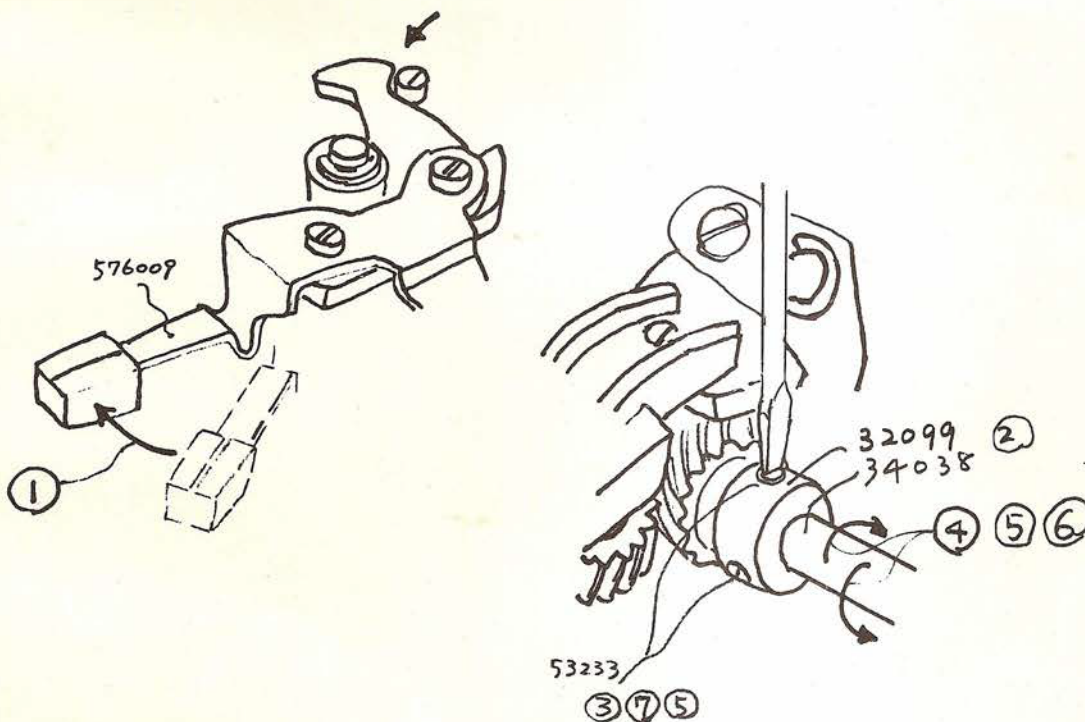
1. Set needle position regulating lever at L. (Fig. 1)
 2. Turn hand wheel and bring cam box to the left. Hold needle bar at its lowest point.
 3. Move zigzag width regulating lever to 5 (Fig. 2) and observe the swing of needle bar. (Fig. 3)
 4. If needle bar swings inward (to the right, Fig. 4), slightly loosen needle position regulating lever set screw (#021) and slightly push needle position regulating bracket to the direction B. (Fig. 1)
- Repeat this adjustment until correct needle bar swing is obtained, and tighten set screw temporarily.
- Needle bar swing should be less than $1/160$ in. outward to obtain even zigzag stitch because of the contraction of fabric in sewing.
5. Set needle position regulating lever at R.
 6. Turn hand wheel and hold needle bar at R position.
 7. See if needle bar swings as No. 3.
 8. If needle swings inward (to the left, Fig. 4), slightly push needle position regulating bracket to the direction A. (Fig. 1).
 9. Make sure the needle bar swing at L and R needle position. The needle bar swing at each needle position (L, R) should be equal.
 10. Tighten set screw firmly.



TIMING NEEDLE BAR FOR ZIGZAG SEWING

If needle bar is not timed correctly for zigzag stitching, needle will move sidewise while in the fabric, distorting the pattern and bending the needle. To correct:

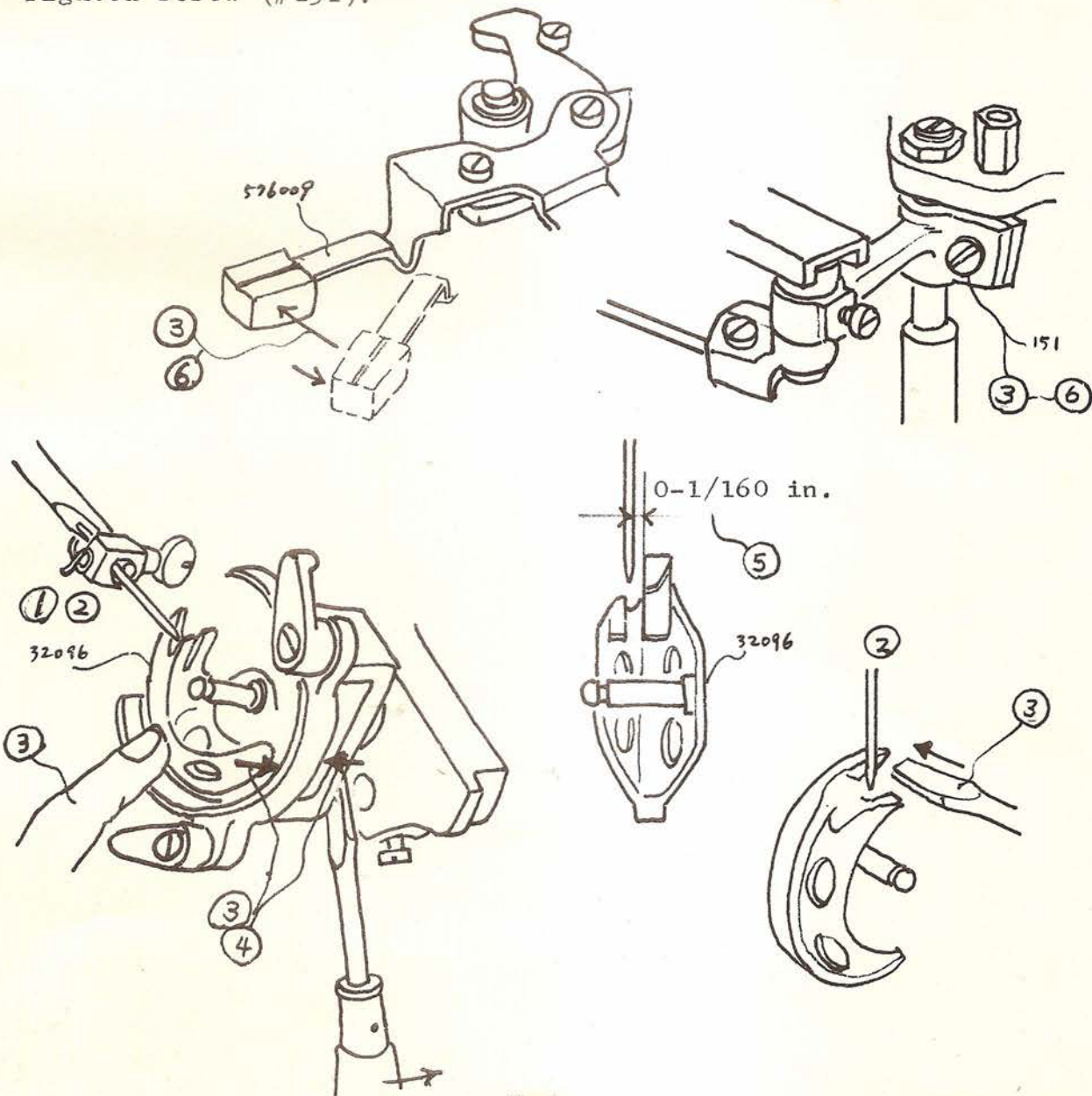
1. Set zigzag width regulator lever (#576009) at 5 and fix it with zigzag width stopper screw (#574038).
2. Take off top cover. Put identifying marks on upper shaft (#34038) and upper shaft worm gear (#32099).
3. Loosen two upper shaft worm gear set screws (#53233).
4. Rotate upper shaft about 10 to 15 degrees by turning hand wheel while holding upper shaft worm gear with screwdriver.
5. Tighten one of the screws and test by placing paper under presser foot. If condition is improved but needle still moves sidewise while in the paper, rotate shaft a little further in the same direction.
6. If condition is worse, rotate shaft in opposite direction beyond identifying marks.
7. When needle bar is timed correctly, tighten screws securely.



ADJUSTMENT FOR CORRECTING CLEARANCE
BETWEEN NEEDLE AND SHUTTLE HOOK

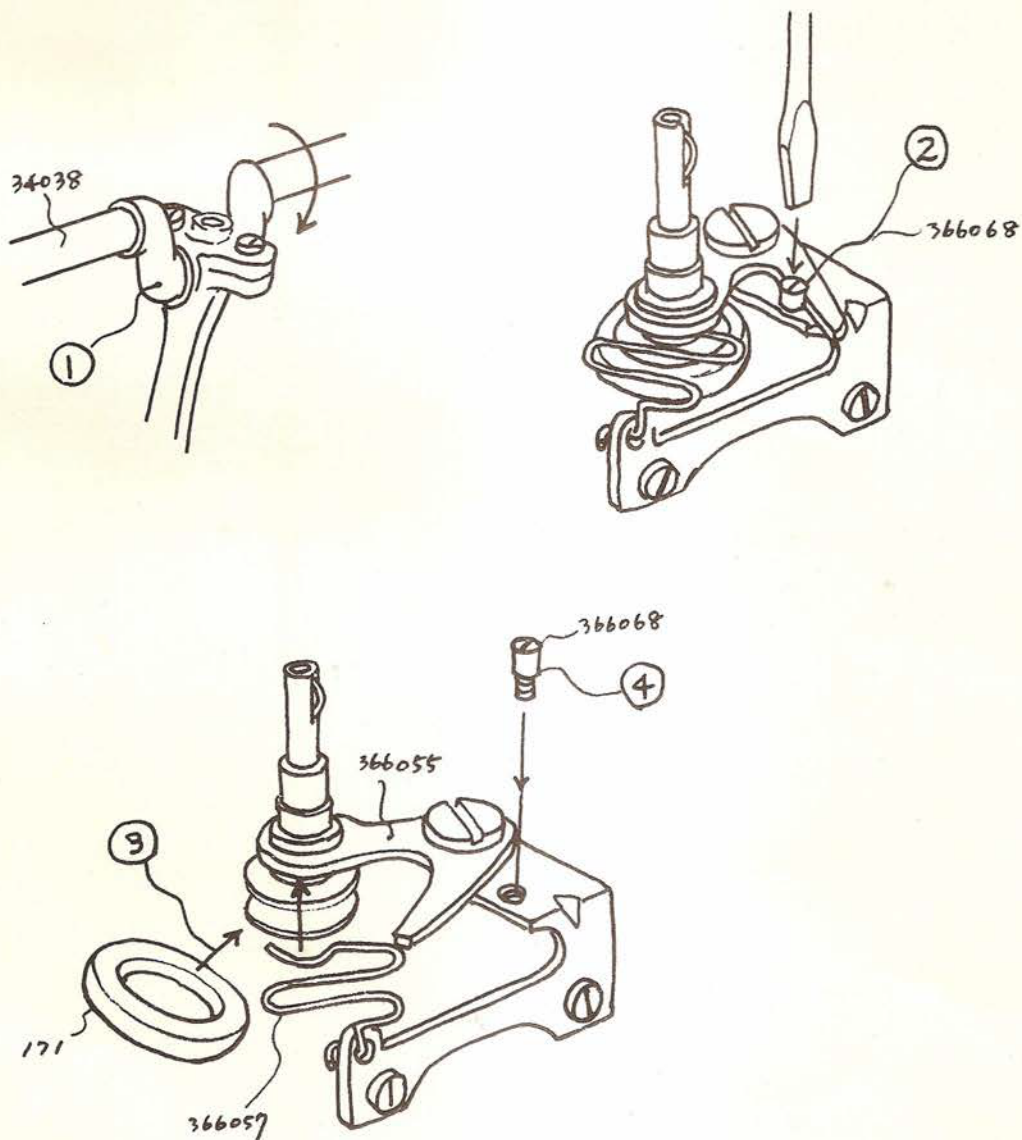
For perfect stitching the needle must be as near the hook as possible without touching it and skipped stitches are often caused by incorrect clearance between needle and hook. Using a perfectly straight needle, test in the following manner:

1. Remove bobbin case and shuttle race cover.
2. Turn hand wheel until needle is directly over point of hook.
3. Hold hook in place and touch needle with a screwdriver. There should be a slight movement of needle. If not, set zigzag width lever at 5 with stopper and loosen vertical shaft driving rod set screw (#151) slightly. Tilt bed up and tap shuttle race down lightly with mallet or the like until correct clearance is obtained.
4. If there is too much movement of needle or too great a distance between needle and hook, first pull shuttle race up until needle touches tip of hook and then tap shuttle race down lightly until correct clearance is obtained.
5. Distance between needle and hook should be under $0-1/160$ in..
6. Set zigzag width lever at 0 and check clearance once again. Tighten screw (#151).



HOW TO REPLACE BOBBIN WINDER RUBBER RING

1. Turn hand wheel and keep crank of upper shaft (#34038) down.
2. Remove bobbin winder arm stopper screw (#366068).
3. Turn bobbin winder arm (#366055) slowly until bobbin winder arm spring (#366057) comes off. Replace rubber ring (#171) from beneath bobbin winder wheel.
4. Turn back bobbin winder arm, insert bobbin winder arm stopper screw and tighten it securely.

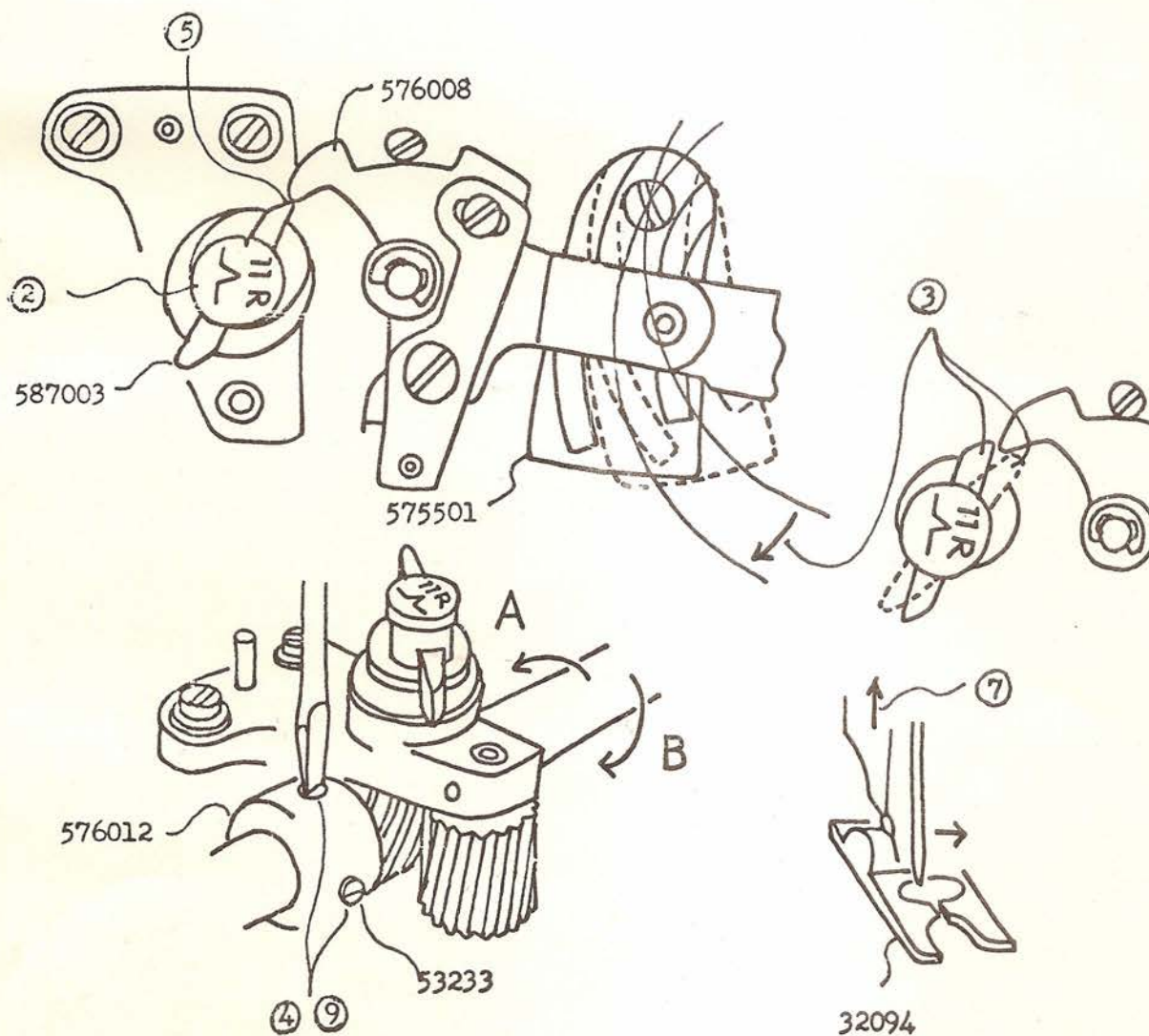


ADJUSTING THE PHASE OF AUTOMATIC
CAM HOLDER ASSEMBLY

(FOR 445 ONLY)

When patterns are deformed in automatic pattern sewing, make adjustment as follows:

1. Set needle position selecting lever at R.
2. Insert No.11R cam (#587003) on cam spindle.
3. Turn balance wheel until crest of cam comes to pick-up point of cam follower (#576008) as near as possible when needle bar is at the lowest point on its left stroke (When zigzag cam box (#575501) moves to the extreme left).
4. Loosen slightly upper shaft worm gear set screws (#53233).
5. Turn worm gear (#576012) until the pick-up point of cam follower comes to the midst of crest of cam. (Be careful not to turn upper shaft.)
6. Tighten worm gear set screws (#53233) temporarily.
7. Raise presser foot (#32094).
8. Turn balance wheel slowly and see if needle starts sewing on its right upward stroke just above presser foot. If not, loosen worm set screws, hold worm gear in its place with screwdriver and turn upper shaft (with balance wheel) slightly away from you (A) when needle starts swinging too late. When needle starts swinging too early, turn upper shaft slightly toward you (B).
9. Tighten worm gear set screws (#53233) firmly.

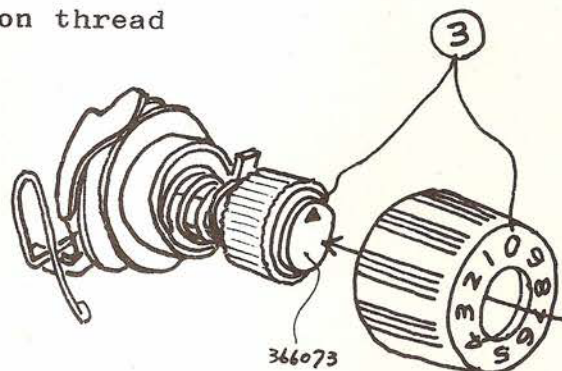
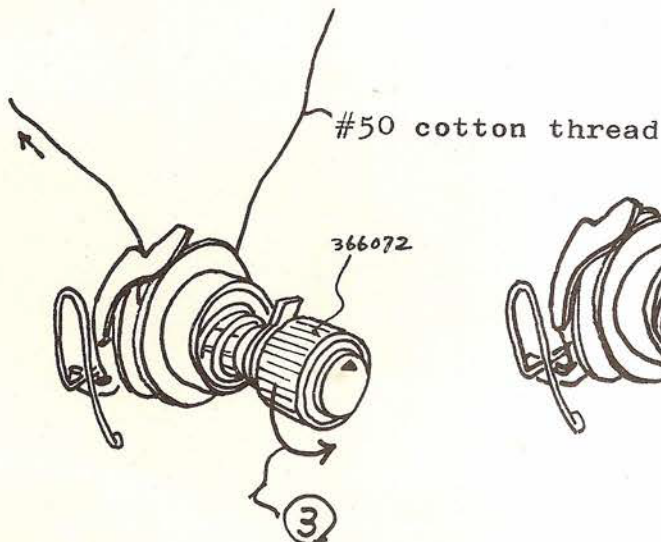
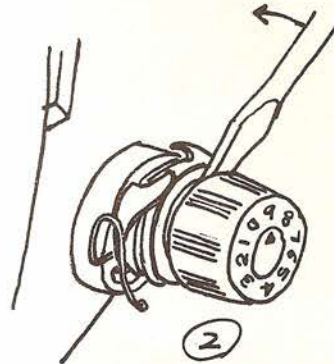
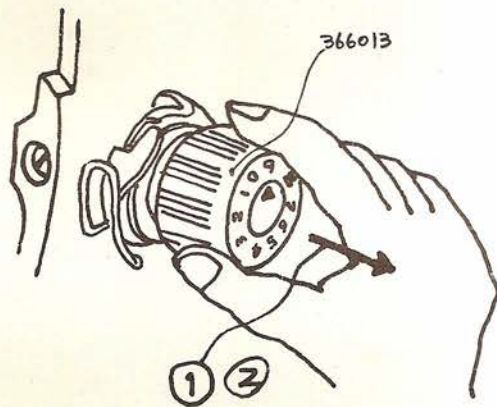


ADJUSTING TENSION OF THREAD TENSION REGULATOR

To check proper thread tension, set thread tension regulator at 0, lower presser bar lifter and see if thread passes through discs without resistance.

When thread tension regulator is set at 1, thread should pass through discs with slight resistance. If not, make adjustment as follows:

1. Set thread tension regulator dial (#366013) at 9 and lower presser bar lifter.
2. Pull out thread tension regulator dial (#366013). If it is too tight, wrench it lightly with screwdriver.
3. Loosen thread tension leading screw (#366072) until #50 cotton thread passes through discs without resistance. Set dial number 0 to indicator mark on thread tension regulator dial indicator (#366073) and push dial in as far as it will go.



HOW TO REPLACE AND ADJUST CHECK SPRING

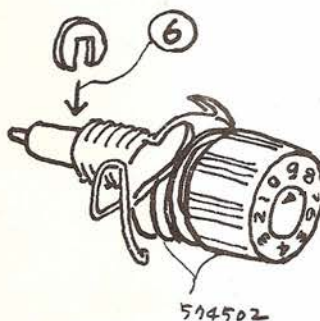
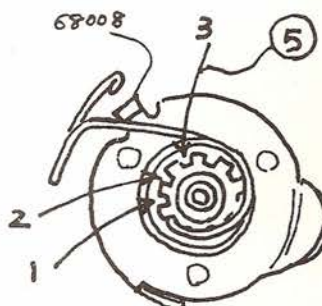
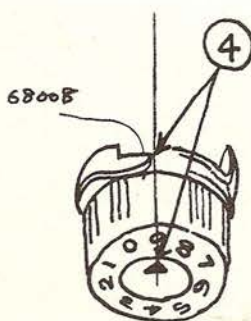
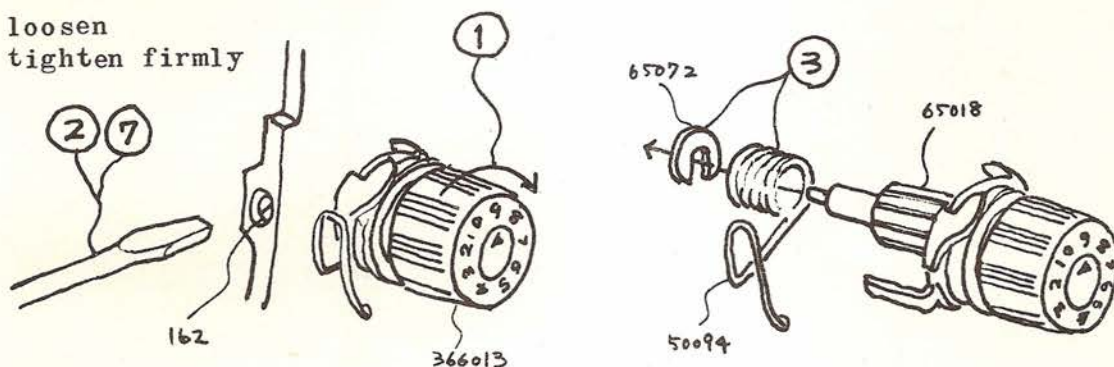
HOW TO REMOVE:

1. Set thread tension regulator dial (#366013) at 9.
2. Loosen thread tension stud set screw (#162) and pull out thread tension regulator.
3. Remove thread tension stud fiber (#65072) and check spring (50094).

HOW TO ASSEMBLE:

4. Set tip of thread tension guard (#68008) to indicator mark.
5. Inserting check spring into thread tension stud (#65018), try to find the position where check spring touches stopper lightly without spring action. Then shift the position clockwise and reinsert check spring into the third groove from the original position.
6. Fasten check spring with fiber lest it should come off.
7. Attach thread tension regulator unit (#574502) to machine head, push it in as far as it will go and tighten set screw.

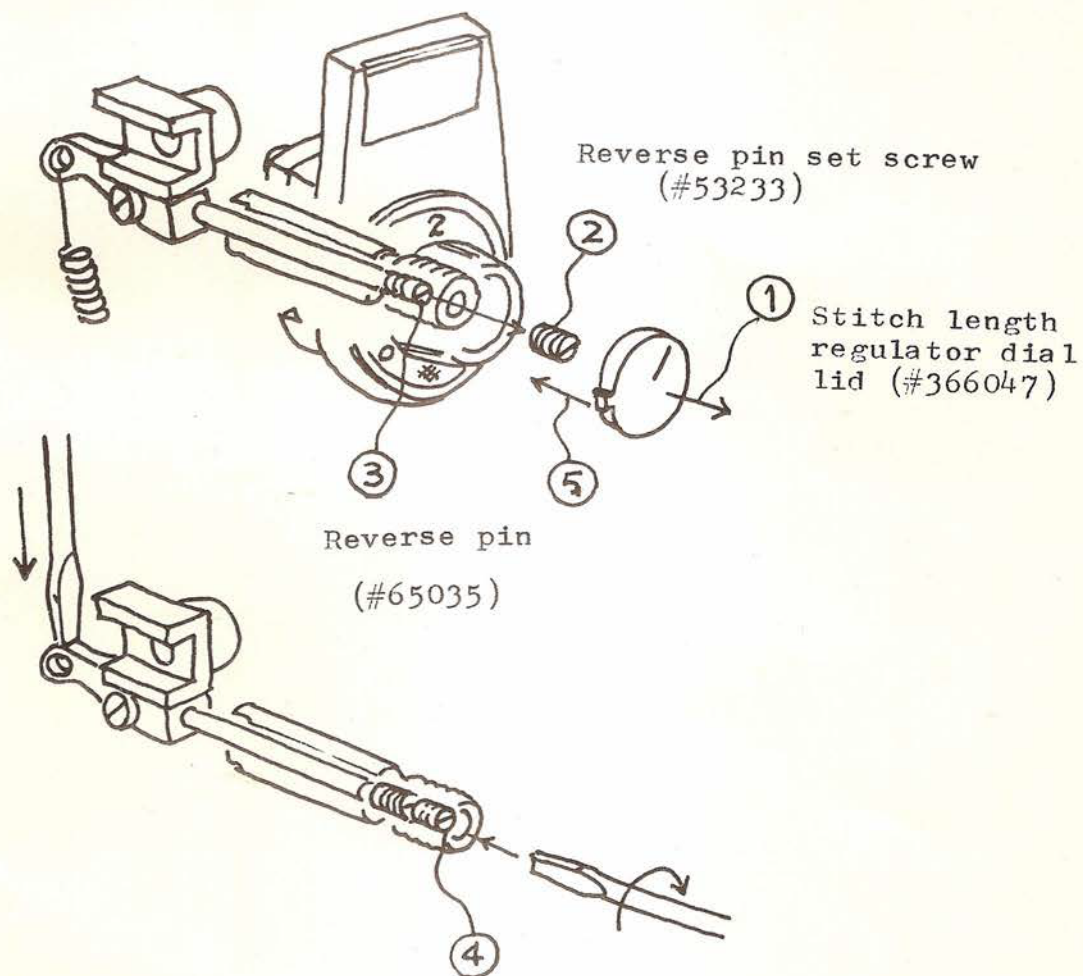
(2) loosen
(7) tighten firmly



ADJUSTING DIFFERENCE IN FORWARD AND REVERSE SEWING PITCHES

From 8.5 to 12 reverse stitches against 10 forward stitches are normally accepted standard for pitch difference. If remarkable difference is observed between forward and reverse pitches, make adjustment as follows:

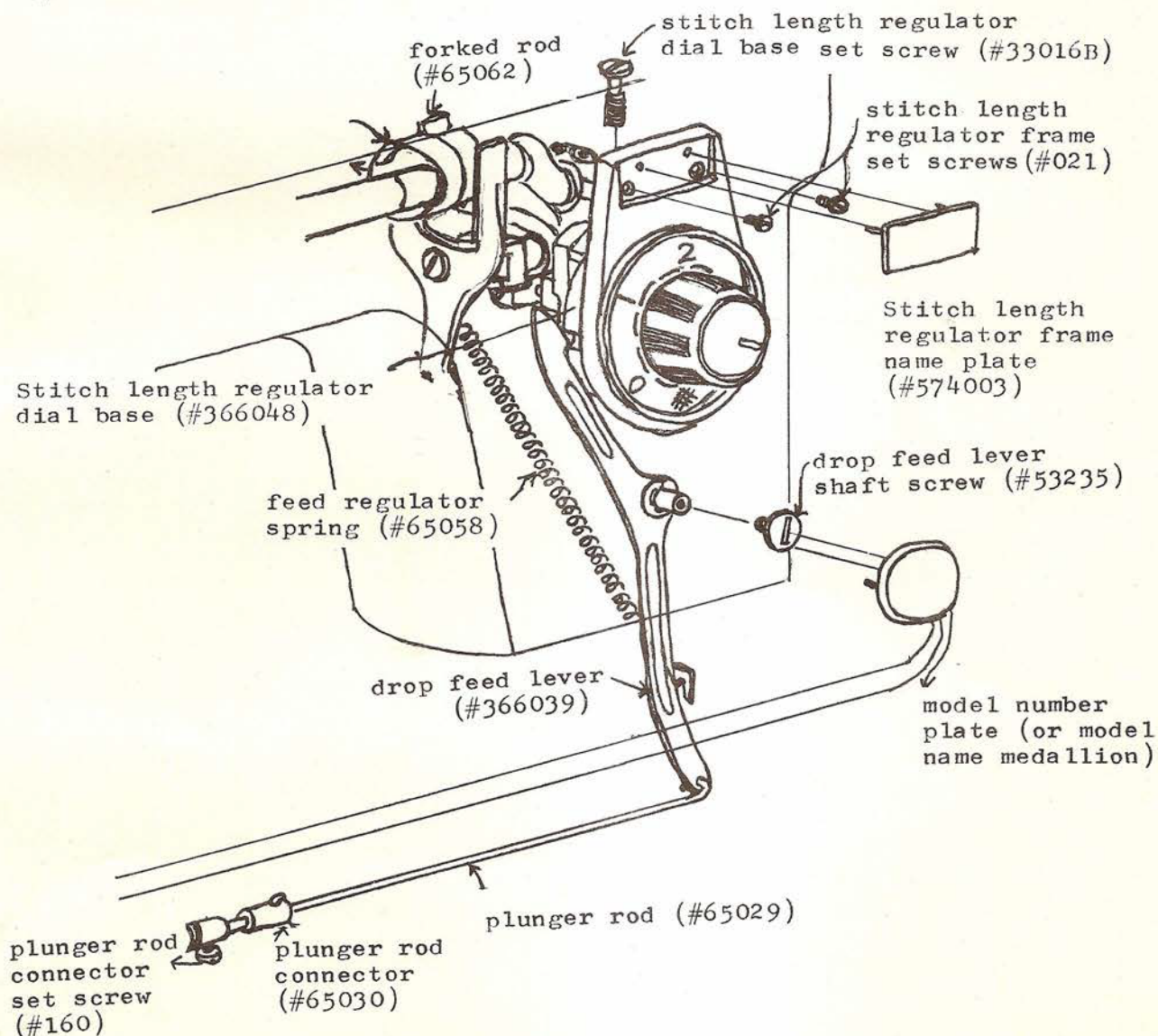
1. Remove stitch length regulator dial lid (#366047).
(Be careful not to damage it.)
2. Screw out reverse pin set screw (#53233).
3. Turn reverse pin (#65035) clockwise to decrease forward pitch. To increase it, turn the pin counterclockwise.
4. Screw in reverse pin set screw and tighten it while pushing feed regulator with screwdriver lest reverse pin should turn at the same time.
5. Attach stitch length regulator dial lid.



HOW TO TAKE OFF STITCH LENGTH REGULATOR DIAL UNIT

To take off stitch length regulator dial unit and stitch length regulator frame, follow the following procedure:

1. Remove top cover.
2. Remove stitch length regulator frame name Plate (#574003) and model number plate (or model name medallion) by straightening holding pins bent inside the arm.
3. Detach feed regulator spring (#65058) from drop feed lever (#366039).
4. Loosen plunger rod connector set screw (#160).
5. Disconnect plunger rod (#65029) from drop feed lever.
6. Remove drop feed lever shaft screw (#53235).
7. Pull out drop feed lever unit from the arm.
8. Turn hand wheel and keep forked rod (#65062) away from you to avoid interference when stitch length regulator dial base (#366048) is turned.
9. Set stitch length regulator dial at 4.
10. Remove stitch length regulator dial base set screw (#33016B).
11. Turn stitch length regulator dial base 180° counterclockwise.
12. Remove stitch length regulator frame set screws (#021).
13. Take off stitch length regulator dial unit and stitch length regulator frame from the arm.

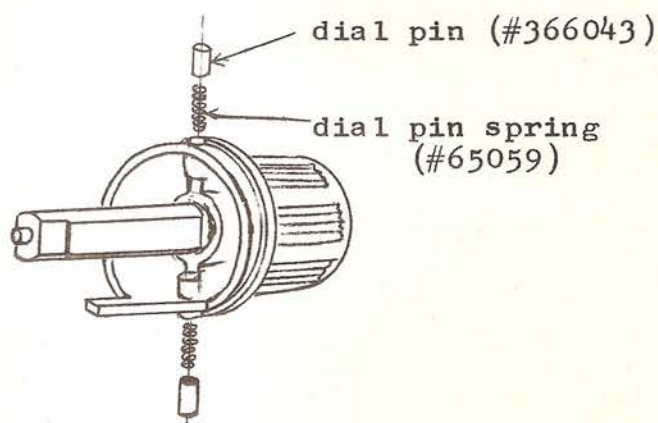
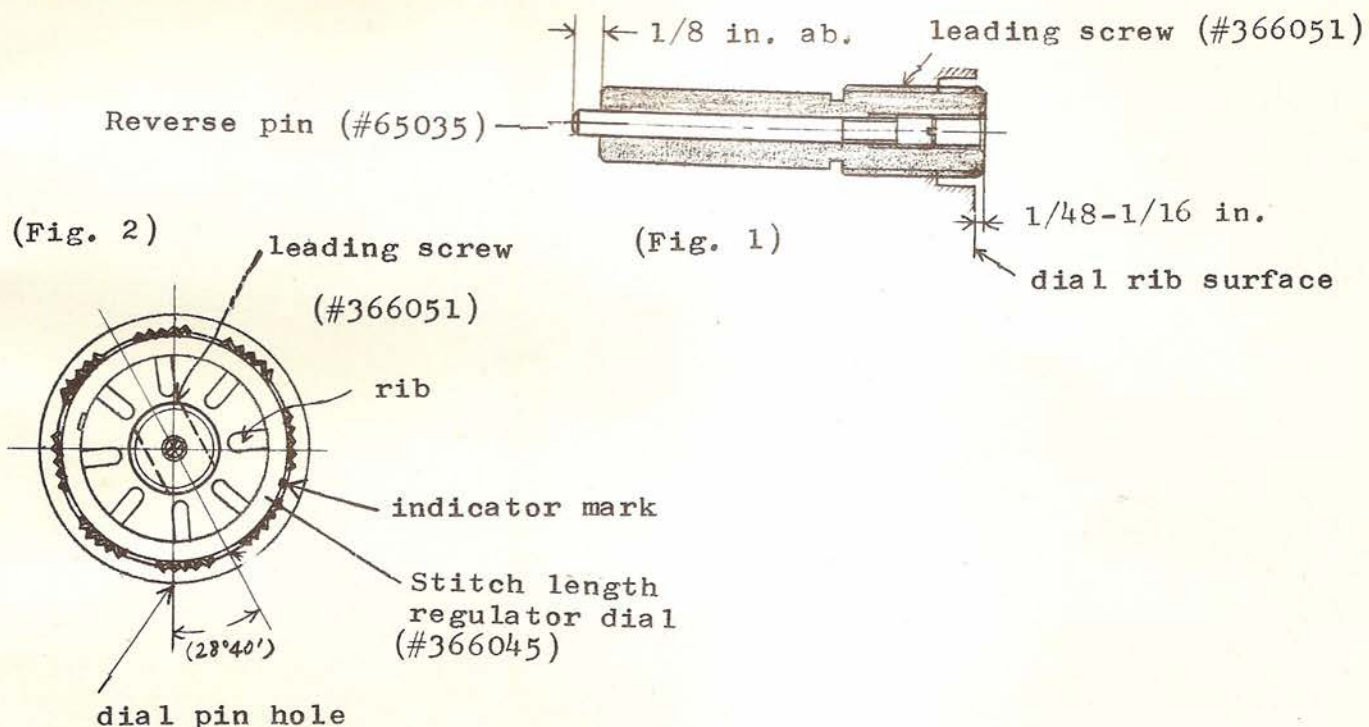


HOW TO ASSEMBLE STITCH LENGTH REGULATOR DIAL UNIT

1. Screw in reverse pin (#65035) into stitch length regulator dial leading screw (#366051) until it protrudes from the other end about 3.5mm as shown in Fig. 1.
2. Screw in stitch length regulator dial leading screw into stitch length regulator dial (#366045) from the back until tip of leading screw comes out $1/48$ - $1/16$ in. beyond surface of dial ribs and see if leading screw is then positioned as shown in Fig. 2.

If not, unscrew leading screw and screw it in once again selecting next thread. There are eight threads on leading screw. To select next thread, keep turning leading screw after it is unscrewed and start screwing it in when clicking sound is heard. Repeat this procedure until leading screw is correctly positioned.

3. Insert stitch length regulator dial pin springs (#65059) and stitch length regulator dial pins (#366043) into two holes in stitch length regulator dial bosses (Fig. 3).



4. Put stitch length regulator dial into stitch length regulator dial base (#366048) and insert leading screw guide bracket (#366049) on stitch length regulator dial leading screw.

Leading screw guide bracket and stitch length regulator dial should be put together at (A) as shown in Fig. 4.

5. Tighten leading screw guide bracket set screws (#33006B) while pushing bracket as far as it will go to direction shown by arrow.
6. Set stitch length regulator dial at 0.
7. Adjust stitch length regulator dial stop screw (#366050) and nut (#53076B) to eliminate play lest dial should move back and forth and tighten nut.

(To disassemble stitch length regulator dial unit, reverse order of above procedure).

(Fig. 4)

